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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/726,559

12/01/2000

Yuki Matsushima

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06/04/2004

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EXAMINER

HENN, TIMOTHY J

ART UNIT

PAPER NUMBER

2612

8

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/726,559

Applicant(s)

MATSUSHIMA, YUKI

Examiner

Timothy J Henn

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-16, 18-20 and 22-26 is/are rejected.
- 7) ☒ Claim(s) 17 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because of the following spelling errors:
 - i. In figure 10, replace "storage" with "storage" in block 5-1
 - ii. In figure 14, replace "CR-ROM" with "CD-ROM" in block 205
 - iii. In figure 15, replace "OUTOUT" with "OUTPUT" in block ST6
 - iv. In figure 16, replace "OUTOUT" with "OUTPUT" in block ST8
 - v. In figure 20, replace "OUTOUT" with "OUTPUT" in block ST6
 - vi. In figure 23, replace "OUTOUT" with "OUTPUT" in block ST6

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 16, 20, 22, 24 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Kaji et al. (US 6,476,868).

[claim 16]

In regard to claim 16, note that Kaji et al. discloses a camera unit configured to acquire an image (Figure 15); a line-of-sight detection unit configured to detect a point of eye fixation of a user within a camera screen (Figure 15, Item 20'), an importance computation unit configured to determine levels of importance for respective areas of the image acquired by the camera unit in accordance with the detection by the line-of-sight detection unit (Figure 15, Item 9; Column 11, Lines 9-38); and a color interpolation processing unit configured to change color interpolation processing for the respective areas of the image in response to the determination by the importance computation unit (e.g. Column 11, Lines 34-38; The office notes that the color interpolation of Kaji et al. in an electronic zoom).

[claim 20]

In regard to claim 14, note that Kaji et al. discloses a camera unit configured to acquire an image (Figure 15); a line-of-sight detection unit configured to detect a point of eye fixation of a user within a camera screen (Figure 15, Item 20'), an importance computation unit configured to determine levels of importance for respective areas of the image acquired by the camera unit in accordance with the detection by the line-of-sight detection unit (Figure 15, Item 9; Column 11, Lines 9-38); and a color interpolation

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processing unit or "noise removal unit" configured to change color interpolation processing or "noise removal processing" for the respective areas of the image in response to the determination by the importance computation unit (e.g. Column 11, Lines 34-38; The office notes that the color interpolation of Kaji et al. in an electronic zoom). It is noted that Kaji et al. does not specifically discuss noise removal.

However, in the applicants specification the applicant notes that color interpolation can emphasize noise when performed on an image (Page 48, Lines 1-4). It is therefore noted that the color interpolation processing unit or "noise removal processing unit" of Kaji et al. would inherently "change the noise removal processing" of the image by adding extra noise into the interpolated area set by the importance computation unit.

[claim 22]

In regard to claim 22, see any one of claim 16 or 20 above.

[claim 24]

Claim 24 is a method claim corresponding to apparatus claim 16, therefore claim 24 is analyzed and rejected as previously discussed with respect to claim 16.

[claim 26]

Claim 26 is a method claim corresponding to apparatus claim 20, therefore claim 26 is analyzed and rejected as previously discussed with respect to claim 20.

5. Claims 18, 19, 22 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Silverbrook (US 6,690,419).

[claim 18]

In regard to claim 18, note that Silverbrook discloses a camera apparatus (Column 1, Line 66 - Column 2, Line 6) comprising a camera unit configured to acquire an image (Column 2, Lines 10-13); a line-of-sight detection unit configured to detect a point of eye fixation of a user within a camera screen (Column 2, Lines 23-35); and an importance computation unit configured to determine levels of importance for respective areas of the image acquired by the camera unit in accordance with the detection by the line-of-sight detection unit (Column 2, Line 66 - Column 3, Line 11); and a sharpness enhancement processing unit configured to change sharpness enhancement processing for the respective areas of the image in response to the determination by the importance computation unit (Column 3, Lines 1-3; The office notes that focusing effects would inherently change the sharpness of the image).

[claim 19]

In regard to claim 19, note that by applying the focusing effect in a regional specific manner by applying the effect solely to the first area, the first area would have a higher image quality than the second area and the processing done to the second area would inherently be faster than the processing in the first area due to the added processing from the focusing effects.

[claim 22]

In regard to claim 22, see claim 18.

[claim 25]

Claim 25 is a method claim corresponding to apparatus claim 18, therefore claim 25 is analyzed and rejected as previously discussed with respect to claim 18.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 14, 15, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook (US 6,690,419) in view of Krishnamurthy et al. (US 6,256,423).

[claim 14]

In regard to claim 14, note that Silverbrook discloses a camera apparatus (Column 1, Line 66 - Column 2, Line 6) comprising a camera unit configured to acquire an image (Column 2, Lines 10-13); a line-of-sight detection unit configured to detect a point of eye fixation of a user within a camera screen (Column 2, Lines 23-35); and an importance computation unit configured to determine levels of importance for respective areas of the image acquired by the camera unit in accordance with the detection by the line-of-sight detection unit (Column 2, Line 66 - Column 3, Line 11). Therefore, it can be seen that Silverbrook lacks a number-of-grey-scale-level determining unit configured to

change a number of gray scale levels for respective areas of the image in response to the determination by the importance computation unit.

However, it is noted that Silverbrook teaches the application of artistic effects to selected areas of importance. Jaffray et al. teaches various artistic effects which can be applied to an image. One such artistic effect changes a number of grey-scale levels (Column 10, Lines 19-56) to make the image appear as if highlights were added in chalk (Column 11, Lines 40-42). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the artistic effect of Jaffray et al. to change a number of grey-scale levels in the area of importance of Silverbrook to make the area of importance appear as if highlights were added in chalk.

[claim 15]

In regard to claim 15, note that the artistic effect of Jaffray et al. increases a number of grey-scale levels in a first area (i.e. the region of importance) as compared to a second area that has a smaller level of importance than the first area under the Silverbrook teaching that artistic effects can be applied in a region specific manner (Silverbrook, Column 3, Lines 1-11).

[claim 22]

In regard to claim 22, see claim 14.

[claim 23]

Claim 23 is a method claim corresponding to apparatus claim 14, therefore claim 23 is analyzed and rejected as previously discussed with respect to claim 14.

Allowable Subject Matter

8. Claims 17 and 21 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

[claim 17]

In regard to claim 17, the prior fails to teach or fairly suggest a camera apparatus in which a color interpolation unit performs a first processing in a first area, and performs a second processing in a second area that has a smaller level of importance than the first area, the first processing generating an image having higher image quality than the second processing, and the second processing being faster than the first processing.

[claim 21]

In regard to claim 21, the prior fails to teach or fairly suggest a camera apparatus in which a noise removal unit performs a first processing in a first area, and performs a second processing in a second area that has a smaller level of importance than the first area, the first processing generating an image having higher image quality than the second processing, and the second processing being faster than the first processing.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art further shows the current state of the art in selective image processing based on regions of importance.

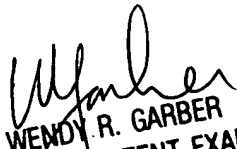
- i. Moghadam et al. US 5,706,049
- ii. Krishnamurthy et al. US 6,256,423

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J Henn whose telephone number is (703) 305-8327. The examiner can normally be reached on M-F 7:30 AM - 5:00 PM, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJH
5/25/2004


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